



CLEAR SOLUTIONS for complex fluids

FPSO Slops Cleanup



CHALLENGE

- Maersk Oil UK FPSO slops water oil content difficult to treat



SOLUTION

- CETCO Energy Services (CETCO), conducted an Objective Root Cause Analysis, (ORCA™) study, Mobilized our Advanced Coalescing Technology, Hi-Flow® and pre filter unit



RESULTS

- Slops oil removal efficiency of >80%, Oil-In-Water (OIW) discharge <20 mg/L

FPSO Slops Cleanup

CHALLENGE

Maersk Oil UK was experiencing difficulties with slops water oil content on the Gryphon FPSO. Therefore, the FPSO was forced to route the off spec produced water into the FPSO's storage cells for later treatment using the existing equipment.

Once within the storage cells, the slops water became even harder to treat due to precipitation of suspended solids and addition of other contaminants. As a result, the volume of slops water stored on the FPSO was steadily accumulating.

CETCO SOLUTION

CETCO initially conducted a Fluid Process and Optimization Study on the installation which determined the fluid characteristics; oil and solids particle size; chemical injection program; and process performance. After this information was established, CETCO selected best available technology (BAT) to separate OIW and to enable the asset to achieve the discharge limit. CETCO mobilized a two-stage filtration and coalescer

package consisting of a PFU600 pleated filter unit and the IFV-4000, which is CETCO's proprietary Hi-Flow® Coalescer. This treatment package accepted feed from the storage tank stripping pumps at a maximum rate of 12,600 BWPD.

RESULTS

Once on site, the PFU600 and IFV-4000 rental units were installed in series configuration, at an identified and suitable point at the discharge of the storage tank stripping pumps. After the unit's installation, all fluids discharged from the rental package were routed to the Downstream Enhancement Vessel (DEV) of the water plant; this had the effect of diluting the online produced water effluent with treated slops water. The advanced capabilities of CETCO's Hi-Flow® with pre-filtration consistently achieved a combined oil removal efficiency of >80%. For the duration of the rental from 26/08/2013 until 14/12/2013, CETCO successfully treated the produced water and removed hydrocarbons on the Gryphon FPSO to an average OIW discharge concentration of < 20 mg/L.

